

Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1. (Currently amended) A method of establishing communications comprising:
establishing a virtual connection between a source computer system assigned a source virtual host name and located behind a first connectivity barrier and a destination computer system assigned a destination virtual host name and located behind a second connectivity barrier, wherein establishing the virtual connection comprises:
establishing, by the source computer system, a first persistent, bi-directional barrier traversal session between the source computer system and a forwarder/relay service, wherein establishing the first session includes representing data of a first application in a format associated with a proxy network protocol configured to communicate data corresponding to another application so that the data of the first application is communicated through the first connectivity barrier using the proxy network protocol; and
establishing, by the destination computer system, a second persistent, bi-directional barrier traversal session between the destination computer system and the forwarder/relay service, the forwarder/relay service maintaining the second session if the first session is temporarily lost and re-establishing the virtual connection when the first session is re-established.
2. (Original) The method of claim 1 wherein at least one of the connectivity barriers comprises a firewall.
3. (Original) The method of claim 1 wherein at least one of the connectivity barriers comprises a consumer gateway.

4-6. (Cancelled).

7. (Previously presented) The method of claim 1 wherein the virtual host names comprise part of a hierarchical naming system.

8. (Previously presented) The method of claim 1 including providing a directory search application to allow a user to select the virtual host names.

9. (Previously presented) The method of claim 1 wherein the source computer system can roam between networks.

10. (Previously presented) The method of claim 1 including dynamically assigning at least one server associated with the forwarder/relay service to handle the sessions.

11. (Currently amended) A method of establishing communications between source and destination computer systems comprising:

establishing a persistent, bi-directional barrier traversal session, by the source computer system, between the source computer system located behind a first connectivity barrier and a forwarder/relay service, wherein establishing the session includes representing data of a first application in a format associated with a proxy network protocol configured to communicate data corresponding to another application so that the data of the first application is communicated through the first connectivity barrier using the proxy network protocol;

establishing, by the destination computer system, a persistent, bi-directional barrier traversal transport level communications connection between the forwarder/relay service and the destination computer system, the destination computer system located behind a second connectivity barrier; and

maintaining the session between the forwarder/relay service and the destination computer system if the session between the source computer system and the service is lost.

12. (Previously presented) The method of claim 11 wherein the first and second barriers comprise firewalls.

13. (Previously presented) The method of claim 11 wherein the first and second barriers comprise consumer gateways.

14. (Previously presented) The method of claim 11 including assigning a server associated with the forwarder/relay service to handle the session.

15. (Previously presented) The method of claim 11 in which the session is established based on a virtual host name associated with the source computer system.

16. (Original) The method of claim 15 wherein the virtual host name comprises part of hierarchical naming system.

17. (Original) The method of claim 15 including providing a directory search application to allow a user to select the virtual host name.

18. (Previously presented) The method of claim 15 wherein the source computer system can roam between networks.

19. (Original) The method of claim 14 wherein the server is dynamically assigned.

20-25. (Cancelled).

26. (Currently amended) An article comprising a computer-readable medium including computer-executable instructions for causing a computer system, in response to a

request from a first computer system located behind a first connectivity barrier to establish connectivity to a second computer system, to:

assign a server to handle a first persistent, bi-directional barrier traversal session, initiated by the first computer system, between the first computer system and a forwarder/relay service, wherein the first computer system is configured to represent data of a first application in a format associated with a proxy network protocol configured to communicate data corresponding to another application so that the data of the first application is communicated through the first connectivity barrier using the proxy network protocol;

establish a persistent, bi-directional barrier traversal session initiated by the second computer system if the second computer system is located behind a second connectivity barrier; and

maintain the session between the forwarder/relay service and the destination computer system if the session between the source computer system and the forwarder/relay service is lost.

27. (Previously presented) The article of claim 26 including instructions for causing the computer system to establish a transport level communications connection to the second computer system if the second computer system is not located behind a connectivity barrier.

28. (Previously presented) The article of claim 26 including instructions for causing the computer system to instruct the first computer system to establish a direct session with the second computer system if the second computer system is not located behind a connectivity barrier.

29. (Previously presented) The article of claim 26 including instructions for causing the computer system to establish the forwarder/relay session between the first computer system and the service based on a virtual host name associated with the first computer system.

30. (Original) The article of claim 29 wherein the virtual host name comprises part of hierarchical naming system.

31. (Cancelled).

32. (Previously presented) The method of claim 1, wherein the proxy network protocol includes at least one of: Hypertext Transfer Protocol (HTTP), File Transfer Protocol (FTP), and SOCKS4/5.

33. (Previously presented) The method of claim 1, wherein establishing the second session comprises:

determining a communication mode for communicating between the destination computer system and the forwarder/relay service; and

communicating data between the destination computer system and the forwarder/relay service according to the determined communication mode.

34. (Cancelled).

35. (Cancelled).

36. (Previously presented) The method of claim 11, wherein the proxy network protocol includes at least one of: Hypertext Transfer Protocol (HTTP), File Transfer Protocol (FTP), and SOCKS4/5.

37. (Cancelled).

38. (Previously presented) The article of claim 26, wherein the proxy network protocol includes at least one of: Hypertext Transfer Protocol (HTTP), File Transfer Protocol (FTP), and SOCKS4/5.

39. (Previously presented) The method of claim 11, wherein establishing the transport level communication session between the forwarder/relay service and the destination computer system comprises:

determining a communication mode for communicating between the destination computer system and the forwarder/relay service; and

communicating data between the destination computer system and the forwarder/relay service according to the determined communication mode.

40. (Previously presented) The article of claim 26, wherein the computer-executable instructions for causing a computer system to establish a session initiated by the second computer system comprises instructions for causing the computer system to:

determine a communication mode for communicating between the destination computer system and the forwarder/relay service; and

communicate data between the destination computer system and the forwarder/relay service according to the determined communication mode.